

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A high torque turbine rotor for a hand held or spindle mounted pneumatic tool, comprising:

a rotor body having an inlet attachable to a high pressure air source, including:

a first annular chamber;

a second annular chamber; and

a common inner wall, wherein said first annular chamber and said second annular chamber are separated by said common inner wall;

said rotor body being cylindrical and including a plurality of tangential peripheral nozzles in fluid communication with said housing first chamber and said housing second chamber for expelling high pressure air to rotate said rotor body;

said inner wall including a central bore for receiving ~~and~~ an attachment to a drive shaft.

2. (Original) The high torque turbine rotor of claim 1, wherein said rotor further comprises:

an RPM governor in said first chamber and in said second chamber.

3. (Currently Amended) The high torque turbine rotor of claim 2, wherein said RPM governor includes:

a front wall;

at least one spiraling wall barrier extending from the outer portion of each annular chamber ~~through a valve o-ring of the rotor body;~~

a valve o-ring within each annular chamber;

an annular perforated barrier within each annular chamber extending outward from the valve o-ring; and

a back wall.

4. (Original) The high torque turbine rotor of claim 3, wherein each perforated barrier is integral with the rotor body of the rotor.

5. (Original) The high torque turbine rotor of claim 1, wherein four arcuate chambers radiate from each annular chamber.

6. (Currently Amended) The high torque turbine rotor of claim ~~[[1]]~~ 3, wherein the front wall and ~~[[the]]~~ a front interior surface of the inner wall are grooved for fitting a first perforated barrier, and the back wall and ~~[[the]]~~ a back interior surface of the inner wall are grooved for fitting a second perforated barrier.

7. (Original) The high torque turbine rotor of claim 3, wherein the valve o-ring is resilient rubber.

8. (Currently Amended) The high torque turbine rotor of claim ~~[[1]]~~ 3, wherein the common inner wall comprises:

one or more additional annular chambers and additional ~~arcuate chambers~~ spiraling wall barriers located between the two annular chambers and the two ~~arcuate chambers~~ spiraling wall barriers ~~which terminate openings in the circumference of the rotor body, and~~ an additional annular perforated barrier is located within each additional annular chamber and located radially outward from an additional valve o-ring, and ~~at least one~~ said additional valve o-ring is located radially inward from the additional annular perforated barrier.

9. (Original) The high torque turbine rotor of claim 1, wherein the inner wall comprises a narrow waist.

10. (Original) The high torque turbine rotor of claim 3, wherein the components except for the valve o-ring are made of plastic.

11. (Currently Amended) The high torque turbine rotor of claim ~~[[1]]~~ 3, wherein the front wall and the back wall are releasably attached to the inner wall.

12. (Original) The high torque turbine rotor of claim 11, wherein the front wall and the back wall are attached to the inner wall by frictional force.

13. (Currently Amended) The high torque turbine rotor of claim 1, wherein the ~~first~~ plurality of tangential peripheral nozzles in communication with the first annular chamber are aligned with the ~~second~~ plurality of tangential peripheral nozzles in communication with the second annular chamber.

14. (Original) A rotor body to a high torque turbine rotor, comprising:
- a rotor body including a central bore, and
 - said rotor body having a cylindrical outer wall and a central inner wall;
 - a front surface, including at least one first annular channel ending in at least one first arcuate channel ending in at least one first circumferential opening; and
 - a back surface, including at least one second annular channel ending in at least one second arcuate channel ending in at least one second circumferential opening.
15. (Original) The rotor body of claim 14, further comprising a first groove in the first annular channel for fitting a first perforated barrier, and a second groove in the second annular channel for fitting a second perforated barrier.
16. (Original) The rotor body of claim 14, further comprising:
- the first perforated barrier;
 - the second perforated barrier;
 - a first valve o-ring located between the first perforated barrier and the central bore; and
 - a second valve o-ring located between the second perforated barrier and the central bore.

17. (Currently Amended) A hand held pneumatic tool, comprising:

a high torque turbine rotor body located circumferentially around ~~the~~ a primary shaft, wherein the turbine rotor body includes:

a front wall and a back wall adapted for fitting with ~~the~~ an inner wall, each including:

a central bore;

~~an~~ the inner wall adapted for fitting with the front wall and ~~[[a]]~~ the back wall, the inner wall including:

at least two annular chambers;

at least one arcuate chamber radiating from the outer portion of each annular chamber ~~through a valve o-ring in the rotor body;~~

a valve o-ring within each annular chamber;

an annular perforated barrier within each annular chamber located radially outward from the valve o-ring, and

a central bore;~~;~~ and

~~a back wall adapted for fitting with the inner wall, including: a central bore.~~

18. (Currently Amended) A hand held pneumatic tool, comprising:

a high torque turbine rotor having an outer wall and an axis of rotation, means for mounting said turbine rotor for rotation about said axis of rotation on a drive shaft, said turbine rotor having an inner wall and at least two high pressure air receiving chambers, means for directing pressurized air into the two chambers, said turbine rotor having an air passing passage in each chamber, said air passage ending in tangential nozzles in said outer wall of the rotor, said nozzles directing a pressurized fluid therefrom to impart rotation to said turbine rotor.

19. (Original) The hand held pneumatic tool of claim 18, wherein said rotor body includes a chamber wall separating said two chambers.

20. (Currently Amended) The hand held pneumatic tool of claim 18, further comprising a resilient sealing means located in each said annular chamber means;

said resilient sealing means being movable outwardly by centrifugal force to restrict pressurized flow through ~~said~~ perforated barrier means, allowing pressurized fluid to flow unrestricted by said resilient sealing means until said resilient sealing means has been moved outwardly by centrifugal force to restrict pressurized flow through the perforated barrier means.

21. (Original) A high torque turbine rotor for a hand held or spindle mounted pneumatic tool, comprising:

means for generating torque with a cylindrical body having an inlet attachable to a high pressure air source, including:

means for generating torque in a first chamber of said body;

means for generating torque in a second chamber of said body;

means for separating said first chamber from said second chamber; and

means connecting said torque generating means to a shaft.

22. (Original) The high torque turbine rotor of claim 21, wherein said rotor further comprises means for governing the revolutions per minute of the rotor disposed within said first means for generating torque and said second means for generating torque.

23. (New) A high torque turbine rotor for a hand held or spindle mounted pneumatic tool, comprising:

an inlet attachable to a high pressure air source;

a first annular chamber;

a first plurality of tangential peripheral nozzles in communication with said first annular chamber;

a second annular chamber;

a second plurality of tangential peripheral nozzles in communication with the second annular chamber; and

a common inner wall including a central bore for receiving and attachment to a drive shaft, wherein said first annular chamber and said second annular chamber are separated by said common inner wall.

24. (New) The high torque turbine rotor of claim 23, further comprising a first RPM governor in said first annular chamber and a second RPM governor in said second annular chamber.

25. (New) The high torque turbine rotor of claim 24, wherein said first and second RPM governors each comprise:

at least one spiraling wall barrier extending outward from the outer portion of the annular chamber;

a valve o-ring within the annular chamber; and

an annular perforated barrier within the annular chamber extending outward from the valve o-ring.

26. (New) The high torque turbine rotor of claim 25, wherein each perforated barrier is integral with the rotor body.

27. (New) The high torque turbine rotor of claim 23, wherein four arcuate chambers radiate from each annular chamber.

28. (New) The high torque turbine rotor of claim 23, further comprising:

a front wall adjacent to the common inner wall; and

a back wall adjacent to the common inner wall; wherein

the front wall and a front interior surface of the common inner wall are grooved for fitting a first perforated barrier and the back wall and a back interior surface of the common inner wall are grooved for fitting a second perforated barrier.

29. (New) The high torque turbine rotor of claim 25, wherein the valve o-ring is constructed of resilient rubber.

31. (New) The high torque turbine rotor of claim 25, wherein the components, except for the valve o-ring, are constructed of plastic.

32. (New) The high torque turbine rotor of claim 28, wherein the front wall and the back wall are releasably attached to the common inner wall.

33. (New) The high torque turbine rotor of claim 32, wherein the front wall and the back wall are attached to the inner wall by frictional force.

34. (New) The high torque turbine rotor of claim 23, wherein the first plurality of tangential peripheral nozzles are aligned with the second plurality of tangential peripheral nozzles.